

SWITCHED REACTANCE MODULATED E-CLASS OSCILLATOR

ABSTRACT OF THE DISCLOSURE

A modulated Class E oscillator. In one embodiment, the modulated Class E oscillator may achieve high coil currents (about 1A) and voltages (about 500V) with low power components. Current may be injected when the oscillating current in the inductor passes through zero. A detector circuit may be used to trigger the current injection at the appropriate instant regardless of changes in the resonant frequency of the system. Its phase can be adjusted to compensate for propagation delays in the drive circuitry, while amplitude modulation is accomplished by switching in additional reactive conductance to increase the current injected into the tank circuit. Frequency modulation is accomplished in an alternate embodiment. The oscillator can also lock to an external reference signal and be phase modulated.